HF Happenings

You can now download your copy of HF Happenings from www.sarl.org.za/hf_happenings.asp.

Oh, Fruit Cake!

Thanks to Richard, ZS6UK, who spotted that the numbering of HF Happenings 711 was wrong. This week your are getting number 712!

ZS5 Sprint Results

Max Rossi, ZS5MAX, Contest Manager of the Highway ARC, says, "Thank you once again this year for the great participation in our ZS5 Sprint. Conditions were very trying on the day; with many different divisions in each other's skip zones, but never the less a great result judging by the number of logs received. Twenty-six logs were received, no check logs."

1st Mitch Rundle, ZS2DK, 91 points
2nd Deon Fraser, ZS5DCF, 69 points
3rd Sydney Smith, ZS1TMJ, 66 points
4th Johan van Vuuren, ZS2JV, 63 points
5th Port Elizabeth, ZS2PE, (operated by Theunis, ZS2EC) 62 points
6th Charles le Roux, ZS1CF, 59 points
7th Hibiscus Coast ARC, ZS5HAC, (operated by Herman, ZS5LH) 52 points
8th Heather Holland, ZS5YH, 44 points
9th John Golby, ZS1ZC, Craig Hardman, ZS5CD, and Zululand ARC, ZS5ZLB, (operated by Jo, ZS5PO) 42 points each
12th Keith Lowes ZS5WFD, 40 points
13th Cobus Rabe, ZS1DJR, and Roy Walsh, ZS3RW, 32 points each
15th Highway ARC, ZS5HAM (operated by Justin, ZS5KT) 30 points
16th Mike Stokes, ZS6AI, 27 points
17th David Holliday ZS5HN, and Mitchel Mynhardt, ZS6YH, 24 points each
19th Garth Wheeler ZS5GMW, and Romeo Nardini, ZS6ARQ, 23 points each
21st Wally Moll, ZS6BCI, 22 points
22nd Johan van Zijl, ZS4DZ, 19 points
23rd Pam Momberg, ZS6APT, 17 points
24th Steven van Jaarsveldt, ZS6SVJ, 13 points
25th Paul Greef, ZS6IO, 12 points
26th David Darby, ZS5DF, 8 points

HARC would like to thank and congratulate all that took part. Awards will be e-mailed to the first three places.

How to Solder

Mitch Altman, WB9IQQ, has released a revised set of slides titled *How to Solder*. You can download the slides from
http://cornfieldelectronics.com/cfe/images/projects/HowToSolder.pdf

Mitch Altman, WB9IQQ, and Jeff Keyzer, W6OHM, wrote the book Soldering is Easy which can be downloaded free from http://mightyohm.com/blog/2011/04/soldering-is-easy-comic-book/

The Russian Woodpecker

The notorious over-the-horizon radar that played havoc with shortwave radio began transmissions in July 1976 and continued for more than 13 years. When first heard by radio amateurs around the world it had a distinctive sharp, repetitive tapping noise. This resulted in them nicknaming it the 'Russian Woodpecker', and that name stuck.

It randomly hopped on frequencies to disrupt legitimate broadcasts, Amateur Radio, the marine and aviation bands, and utility stations, resulting in thousands of complaints by many countries worldwide. Transmissions were heard from about 3 MHz to above 17 MHz and were officially part of the Draga radar system.

In fact, there were three Russian Woodpecker transmitters strategically placed in Ukraine and Siberia. Each had a power of at least 10 megawatts feeding very large multi-element phased array antenna, which in official circles were called the 'steel yard'.

The Woodpecker signals bounced back from the ionosphere, and this backscatter contained information, which could show any travelling object.

At the height of Woodpecker nuisance, some receivers were fitted with 'Woodpecker Blankers' to minimise the harmful interference.

The radars were part of the cold war and until the fall of the Soviet Union formed part of the Anti-Ballistic Missile early-warning system network. The Russian Woodpecker finally went off the air in December 1989, when the Soviet Union collapsed. It has gone, although more sophisticated over-the-horizon radars are now used by several countries for military and border protection.

July

1 – Start of SARL Membership year; Bloemfontein ARC 36th birthday
1 to 10 – Knysna Oyster Festival
3 - ZS5 Sprint
6 - Eid-UL-Fitr
8 to 10 – Dullstroom Winter Festival
9 and 10 - IARU HF Championships
10 - SARL Youth Net
14 to 17 – Coffee and Chocolate Expo, Monte Casino
16 - Winter QRP Sprint
16 and 17 – Franschhoek Bastille Festival
16 to 23 - Region 1 YOTA Summer Camp in Austria
18 - Schools open
24 - ZS2 Sprint
25 - Closing date for articles for the August Radio ZS
30 – Special General Meeting at the NARC
30 – SA Fly-fishing and Flyting Expo, Somerset West
30 and 31 - Islands on the Air Contest

Word to the Wise

Cabrillo - Tomahhhhhto, Tomayyyyto, Cabrilloe, Cabreeyo. Just what is the pronunciation of that format for our contest log submissions? This is directly from Trey Garlough, N5KO, "Juan Rodríguez Cabrillo (João Rodrigues Cabrilho) is said to be the first European to navigate the coast of modern day California. Both the Spanish and the Portuguese claim him, so there is no one single correct answer to this question.

Based on usage that I am exposed to both inside and outside of amateur radio, kuh-BREE-yo wins by a 10-to-1 margin, or more, over other variations. Not definitive, but hopefully 'good enough' for your purposes. 73!"

Determine the resonant frequency of an antenna trap

Larry, N6NC, suggests a method for using an antenna analyser to determine the resonant frequency of an antenna trap. As a parallel L-C circuit, he found inductive coupling to be necessary, "Wind 8 turns of #14 AWG wire at one wire diameter spacing around a 3/8" to 1/2" diameter tube or dowel. Solder the coil to a PL-259 or BNC connector and cover it with heat shrink tubing. When plugged into an analyser and inserted into the trap, the analyser will act as a grid dip meter using the analyser's SWR meter." Dave, KG0ZZ, has a YouTube video illustrating how to perform this measurement https://www.youtube.com/watch?v=ZiI1RCrOpbM.

80 metre beams

Tom, K5RC, has been orchestrating the construction and installation of new 80 metre beams at the Comstock Memorial Station, W7RN. It is a big, big project.

Some details - the 80 metre beam antenna sports 27.74 m elements, weighs 272 kg and has a 23 m boom. Force 12 assembled the elements. A 60 m crane was used to place the antennas onto the monopoles. Many people have been involved in this project, and on installation day, the crew consisted of K7NV, K6NV, KH2TJ, XE2K, K6NA, K6DGW, K5XI, and of course K5RC.

Antenna selfie of Hector, XE2K, with the W7RN 80 metre beam in the background. The boom looks small, but it's actually 23 m long. [Photo courtesy of XE2K]

Tom has photos https://photos.google.com/share/AF1QipMpkII5ZY7IGPYVfkWG9oCUlG1CDSDu-_eHKqCrJer5ADvjwmwtNrD4b_mUjJTU1w?key=eWt6RTVvalBidTYxdmp6VGdRRy1DazFwSlpBd1NR on the W7RN website www.w7rn.com/ and HD drone video was captured by AA7XT. You can get a sense of the size of the antenna in this video of the tips being installed www.youtube.com/watch?v=CjUc34sK6qI.

Hector, XE2K, had the task of affixing the antenna to the tower and he is pictured at the top in the video www.youtube.com/watch?v=62QQT6kwyhY. He also has an album of photos from the event https://photos.google.com/share/AF1QipO_bRa7NIv4pKP2ReBGFF_Tdq0Wis1nKKPYV0m80OMQuZV9DJWfzt0AcY9pmD8-UQ?key=a3BvTzJwYnBPeHlMMzh0emxzLUh6bEg4enQyU3l3.

When Giants First Walked the Bands

The World Wide Radio Operator Foundation has re-uploaded the webinar "When Giants First Walked the Bands," which is a look back by Doug, KR2Q, of CQ WW contest multi-multi operations from 1959 to 1986 http://wwrof.org/webinar-archive/when-giants-first-walked-the-bands/.

The 2016 Dayton Contest University

The 2016 Dayton Contest University videos and slides are now available on the Contest University website http://contestuniversity.com/, along with some recently posted videos from 2015. The 2016 content may be choppy in some spots - there was an issue in recording them. The Contest Dinner website http://contestdinner.com/ has been updated to reflect past speakers and programmes, as well as the Contest Hall of Fame. Planning ahead? The Contest Super Suite website http://contestsupersuite.com/ has been updated to reflect the dates for 2017.

African DX

Africa DX Net - every Saturday afternoon from 14:00 UTC on 14,260 MHz hosted by Mike, V51MA, Leon, A25SL, and Tinus, ZS6MHK.

Swaziland, 3DA0. Braam, ZS6AYE, will be active again as 3DA0AY from Swaziland between 18 and 25 July. He will operate mainly digital modes on 40 to 10 metres. QSL via ZS6AYE (direct), OQRS on Club Log.

Melilla EA9. Javier, EC7DZZ, and Manuel, EA7FKH, will be active as EG9LH from Faro del Morro in Melilla between 16 and 17 July. QSL via EC7DZZ.

African Islands

IOTA frequencies
CW: 28 040 24 920 21 040 18 098 14 040 10 114 7 030 3 530 kHz
SSB: 28 560 28 460 24 950 21 260 18 128 14 260 7 055 3 760 kHz

Contest Calendar
This week's contests as compiled by Bruce Horn, WA7BNM. The period covered is 11 to 18 July 2016

Phone Fray
02:30 UTC-03:00 UTC 13 July
Mode: SSB
Bands: 160, 80, 40, 20, 15 m
Classes: Single Op
Max power: 100 watts
Exchange: NA: Name and state, province or country; non-NA: Name
Work stations: Once per band
QSO Points: NA station: 1 point per QSO; non-NA station: 1 point per QSO with an NA station
Multipliers: Each US state (including KH6/KL7) once per band; Each VE province/territory once per band; Each North American country (except W/VE) once per band
Score Calculation: Total score = total QSO points x total mults
Submit logs by: 03:00 UTC 15 July 2016
E-mail logs to: (none)
Post log summary at:
http://www.3830scores.com
Mail logs to: (none)
Find rules at:
http://www.perluma.com/Phone_Fray_Contest_Rules.pdf

CWops Mini-CWT Test
13:00 - 14:00 UTC and 19:00 - 20:00 UTC 13 July and 03:00 - 04:00 UTC 14 July
Mode: CW
Bands: 160, 80, 40, 20, 15, 10 m
Classes: Single Op - QRP, low or high
Max power: HP: >100 watts; LP: 100 watts; QRP: 5 watts
Exchange: Member: Name and member no; non-Member: Name and state, province or country
Work stations: Once per band
QSO Points: 1 point per QSO
Multipliers: Each call once
Score Calculation: Total score = total QSO points x total mults
Submit logs by: 04:00 UTC 16 July 2016
Post log summary at:
http://www.3830scores.com
Mail logs to: (none)
Find rules at:
http://www.cwops.org/cwt.html

RSGB 80 m Club Championship, SSB
19:00 UTC-20:30 UTC 13 July
Mode: SSB

Bands: 80 m Only
Classes: (none)
Exchange: RS and serial no
QSO Points: 1 point per QSO
Multipliers: (none)
Score Calculation: (see rules)
Submit logs by: 23:59 UTC 20 July 2016
Upload log at: http://www.vhfcc.org/cgi-bin/hfenter.pl
Mail logs to: (none)
Find rules at:
http://www.rsgbcc.org/hf/rules/2016/r80mcc.shtml

QRP Fox Hunt
01:00 - 02:30 UTC 15 July
Mode: CW
Bands: 20 m Only
Classes: Single Op – fox or hound
Max power: 5 watts
Exchange: RST, state, province or country name and power output
QSO Points: 1 point per QSO
Multipliers: (none)
Score Calculation: Total score = total QSO points
Submit logs by: 02:30 UTC 16 July 2016
E-mail logs to: (see rules)
Mail logs to: (none)
Find rules at:
http://www.qrpfoxhunt.org/summer_rules.htm

NCCC RTTY Sprint
01:45 - 02:15 UTC 15 July
Mode: RTTY
Bands: (see rules)
Classes: (none)
Exchange: Serial no, name and QTH
Score Calculation: Total score = total QSO points x total mults
Submit logs by: 17 July 2016
E-mail logs to: (none)
Post log summary at:
http://www.3830scores.com/
Mail logs to: (none)
Find rules at:
http://www.ncccsprint.com/rttyns.html

NCCC Sprint

02:30 - 03:00 UTC 15 July
Mode: CW
Bands: (see rules)
Classes: (none)
Exchange: Serial no, name and QTH
Score Calculation: Total score = total QSO points x total mults
Submit logs by: July 17, 2016
E-mail logs to: (none)
Post log summary at:
http://www.3830scores.com/
Mail logs to: (none)
Find rules at:
http://www.ncccsprint.com/rules.html

Russian Radio Team Championship
07:00 UTC-14:59 UTC 16 July
Mode: CW, SSB
Bands: 40, 20, 15, 10 m
Classes: Single Op - CW, SSB or mixed - low or high; Multi-Op
Max power: HP: >100 watts; LP: 100 watts
Exchange: RRTC: RS(T) and 3-character code; Non-RRTC: RS(T) and ITU Zone no
Work stations: Once per band per mode
QSO Points: 1 point per QSO with same zone or with RRTC stations; 3 points per QSO with different zone on same continent; 5 points per QSO with different zone on different continent
Multipliers: Each ITU zone once per band; Each RRTC 3-character code once per band
Score Calculation: Total score = total QSO points x total mults
Submit logs by: 19:00 UTC 16 July 2016
E-mail logs to: ochr@srr.ru
Upload log at:
http://ua9qcq.com/en/submit_log.php?lang=en
Mail logs to: (none)
Find rules at: http://news.srr.ru/wp-content/uploads/2016/03/OZCHR-Z_2016.pdf

Trans-Tasman Low-Bands Challenge
08:00 - 14:00 UTC 16 July
Mode: CW, Phone, Digital
Bands: 160, 80, 40 m
Classes: Single Op - QRP, low or high; Multi-Single; Multi-Multi

Max power: HP: >100 watts; LP: 100 watts; QRP: 5 watts
Exchange: RS(T) and serial no
Score Calculation: (see rules)
Submit logs by: 23 July 2016
E-mail logs to: none
Upload log at:
http://www.b4h.net/vkcc/transtasman/
Mail logs to: (none)
Find rules at:
http://www.vkcc.com/australian-vk-contests/trans-tasman-low-bands-challenge/

DMC RTTY Contest
12:00 UTC 16 July to 12:00 UTC 17 July
Mode: RTTY
Bands: 80, 40, 20, 15, 10 m
Classes: Single Op - QRP, low or high; Single Op 12-Hr - QRP, low or high; Multi-Single; SWL
Max power: HP: >100 watts; LP: 100 watts; QRP: 10 watts
Exchange: RST and serial no
QSO Points: 1 point per QSO
Multipliers: Each prefix once
Score Calculation: Total score = total QSO points x total mults
Submit logs by: 17 August 2016
E-mail logs to: rtty2016@digital-modes-club.org
Mail logs to: DMC Contest Committee, C/o Andreas Lukasczyk, Am Hochhaus 61, 04552 Borna, Germany
Find rules at: http://digital-modes-club.org/index.php/en/contests-en

Feld Hell Sprint
14:00 - 17:59 UTC 16 July
Mode: Feld Hell
Bands: 160, 80, 40, 20, 15, 10, 6 m
Classes: (none)
Max power: Standard: 100 watts; QRP: 5 watts
Exchange: (see rules)
Work stations: Once per band
QSO Points: (see rules)
Bonus Points: (see rules)
Multipliers: (see rules)
Score Calculation: (see rules)
Submit logs by: 20 July 2016

Upload log at:
https://sites.google.com/site/feldhellclub/
Mail logs to: (none)
Find rules at:
https://sites.google.com/site/feldhellclub/Home/contests/sprints/round-robin-sprint

North American RTTY QSO Party
18:00 UTC 16 July to 05:59 UTC 17 July
Mode: RTTY
Bands: 80, 40, 20, 15, 10 m
Classes: Single Op – QRP or low; Multi-Two - low
Max operating hours: Single Op: 10 hours; Multi-Two: 12 hours
Max power: LP: 100 watts; QRP: 5 watts
Exchange: NA: Name and state, province or country; non-NA: Name
Work stations: Once per band
QSO Points: NA station: 1 point per QSO; non-NA station: 1 point per QSO with an NA station
Multipliers: Each US state (including KH6/KL7) once per band; Each VE province/territory once per band; Each North American country (except W/VE) once per band
Score Calculation: Total score = total QSO points x total mults
Submit logs by: 05:59 UTC 24 July 2016
Upload log at:
http://www.ncjweb.com/naqplogsubmit/
Mail logs to: Mark Aaker, K6UFO, 300 Berry St., Unit 1009, San Francisco, CA 94158-1668, USA
Find rules at:
http://www.ncjweb.com/NAQP-Rules.pdf

RSGB Low Power Contest
09:00 - 12:00 UTC and 13:00 - 16:00 UTC 17 July
Mode: CW
Bands: 80, 40, 20 m
Classes: Single Op - fixed or portable 10 W; Single Op - fixed or portable 3 W; Multi-Op - fixed or portable 10 W; Multi-Op - fixed or portable 3 W
Exchange: RST, serial no and Power
QSO Points: 15 points per QSO with QRP portable/mobile station; 10 points per QSO

with QRP fixed station; 5 points per QSO with non-QRP station
Multipliers: (none)
Score Calculation: Total score = total QSO points
Submit logs by: 23:59 UTC 25 July 2016
Upload log at: http://www.rsgbcc.org/cgi-bin/hfenter.pl
Mail logs to: RSGB G3UFY, 77 Bensham Manor Road, Thornton Heath, Surrey CR7 7AF, England
Find rules at:
http://www.rsgbcc.org/hf/rules/2016/rqrp.shtml

Run for the Bacon QRP Contest
01:00 - 03:00 UTC 18 July
Mode: CW
Bands: 160, 80, 40, 20, 15, 10 m
Classes: Single Band; All Band

Max power: 5 watts
Exchange: RST, state, province or country and member no or power
Work stations: Once per band
QSO Points: 1 point per QSO with non-member; 3 points per QSO with member on same continent; 5 points per QSO with member on different continent
Multipliers: Each state, province or country once; Multiply mults by 2 if >50 members worked
Score Calculation: Total score = total QSO points x total mults
Submit logs by: July 24, 2016
E-mail logs to: (none)
Upload log at:
http://qrpcontest.com/pigrun/autolog.php
Mail logs to: (none)
Find rules at: http://qrpcontest.com/pigrun/

Next Week's Contests

Phone Fray, 02:30 - 03:00 UTC 20 July
CWops Mini-CWT Test, 13:00 - 14:00 UTC, 19:00 - 20:00 UTC 20 July and 03:00 - 04:00 UTC 21 July
NAQCC CW Sprint, 00:30 - 02:30 UTC 21 July
RSGB 80 m Club Championship, Data, 19:00 - 20:30 UTC 21 July
QRP Fox Hunt, 01:00 - 02:30 UTC 22 July
NCCC RTTY Sprint, 01:45 - 02:15 UTC 22 July
NCCC Sprint, 02:30 - 03:00 UTC 22 July
SA Sprint Contest, 21:00 – 23:00 UTC 23 July

Variable SSB/CW Audio Filter Modules

SOTABEAMS has added a new continuously variable audio filter module to their filter line-up. The LASERBEAM-VARI produces near-perfect filters from as narrow as 200 Hz up to 3 500 Hz. The LASERBEAM-VARI is ideal for SSB, CW and data use.

The modules are ready built and just require a few external components (supplied) for use. They can either be used as an external filter or built into existing radios.

SOTABEAMS has a short video on their website showing how the filters perform. Details at http://www.sotabeams.co.uk/variable-bandwidth-filter-modules-ssb-cw/
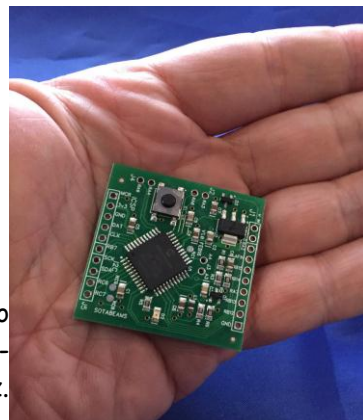
VHF Happenings

The Icy Cold Weather Has Affected Tropospheric Propagation on VHF

This is the coldest winter that we have experienced for many years with many cold fronts coming up from the cold South Atlantic Ocean and crossing the South and East Coasts. Under these conditions the air temperature recorded on the Earth's surface gradually decreases as the altitude increases, when there are no layers of warm air present that can create temperature inversions, then Tropo Enhancement and Ducting cannot exist. Fortunately, the warmer days will start coming back in August and for the next eight months or longer we will enjoy again very strong openings on Tropospheric propagation making very long distance contacts possible on VHF.

NASA to televise next SpaceX launch

NASA provider SpaceX is scheduled to deliver scientific research, crew supplies and hardware on its ninth Commercial Resupply Services mission to the International Space Station Monday 18 July.

The SpaceX Dragon cargo spacecraft is scheduled for lift-off on the company's Falcon 9 rocket at 12:45 am Monday from Space Launch Complex 40 at Cape Canaveral Air Force Station in Florida. Coverage of the launch begins at 11:30 pm Sunday 17 July.

Approximately 10 minutes after launch, Dragon will reach its preliminary orbit, deploy its solar arrays and begin its two-day voyage of carefully choreographed thruster firings to reach the space station. After arrival, NASA astronaut Jeff Williams, KD5TVQ, will use the station's 17,6 metre robotic arm to reach out and capture the Dragon spacecraft. NASA astronaut Kate Rubins, KG5FYJ, will serve as his backup and ground controllers will send commands for the station's robotic arm to install Dragon on the Earth-facing side of the Harmony module.

Live coverage of the rendezvous and capture will begin at 5:30 am Wednesday 20 July with installation coverage at 9:45 am.

The following day, the Expedition 48 crew will pressurize the vestibule between the station and Dragon, open the hatch between the two spacecraft and begin the five-week process of unloading the almost 2 222 kg of supplies and reloading the spacecraft with cargo scheduled to return to Earth on 29 August.

Among the arriving cargo is the first of two international docking adapters, which will provide a means for commercial spacecraft to dock to the station when transporting astronauts in the near future as part of NASA's Commercial Crew Programme.

Experiments launching to station include a space-based DNA sequencer, which the station crew will test. This sequencer has the potential to identify microbes, diagnose diseases, evaluate crewmember health and even help detect DNA-based life elsewhere in the solar system. Other experiments seek to expand our understanding of bone cell function, track heart changes that occur in microgravity and regulate internal spacecraft temperatures.

If the launch does not occur Monday, the next launch opportunity is 12 am Wednesday, 20 July with NASA TV coverage starting at 10:45 pm Tuesday 19 July.

For an updated schedule of prelaunch briefings, events and NASA TV coverage, visit http://www.nasa.gov/content/spacex-crs-9-briefings-and-events

For NASA TV downlink information, schedules and links to streaming video, visit http://www.nasa.gov/nasatv

Learn more about the SpaceX mission to the International Space Station at http://www.nasa.gov/spacexNext

This Week's Contests

CQ Worldwide VHF Contest
18:00 UTC 16 July to 21:00 UTC 17 July

Mode: Any

Bands: 6 and 2 m

Classes: Single Op All Band; Single Op All Band QRP; Single Op Single Band

Hilltopper: Single Op QRP Portable (6 hrs); Multi-Op; Rover

Exchange: 4-character grid square

Work stations: Once per band

QSO Points: 1 point per 6 m QSO; 2 points per 2 m QSO

Multipliers: Each grid square once per band

Score Calculation: Total score = total QSO points x total mults

Submit logs by: 1 August 2016

E-mail logs to: cqvhf@cqww-vhf.com

Mail logs to: Paper Logs, PO Box 481, New Carlisle, OH 45344, USA

Find rules at: http://www.cqww-vhf.com/

Items used with acknowledgement to the ARRL Letter, the ARRL DX News, the ARRL Contest Update, OPDX Bulletin, 425 DX Bulletin, DXNL Newsletter, WIA-News, the RSGB News, DxCoffee, Southgate ARC News, DX World and the Amateur Radio Newsletter